provide estimates that only reflected the productive time required to perform a particular work task. There was no reliance on elapsed cycle time since elapsed cycle time includes all nonproductive time or "down" time between start and completion of a single task.

16. Finally, personnel closest to the development of future systems and process improvements reviewed and modified the work tasks and times obtained from all sources in order to reflect a forward-looking operational environment.

17. The NRC cost studies incorporate a forward-looking wholesale operations systems and process environment reflecting the Company's ongoing process improvement efforts. Key attributes of this environment include:

- Electronic application-to-application ordering interface for the carrier;
- Flow-through service order and work order distribution process;
- Fully automated, remote network activation process and system for all electronic elements;
- Mechanized work force management and dispatch process; and
- Intelligent, hand-held technician workstations allowing remote electronic work order close out.

18. To the fullest extent possible, Bell Atlantic's OSSs are designed to maximize flow through. The NRC cost studies reflect BA-NJ's expectations of flow-through in the future. However, there will remain instances in which manual handling is required to process orders in the most efficient and cost-effective manner. To estimate the cost that will be incurred for such manual handling, BA-NJ calculated the cost of service order entry absent the use of assumed future electronic interfaces.

19. In those instances, for example, when a carrier chooses not to enter a request for service via the electronic interface, BA-NJ will be required to manually intervene in order to process the request. The additional cost to manually handle the request on behalf of the carrier will be recovered through a Manual Intervention Surcharge.

20. In general, OSS electronic interfaces will reduce the need for incremental Telecom Industry Services Operating Center ("TISOC") activity in the processing of a service order for UNEs. However, in certain instances, *e.g.*, a request for multiple loops or complex services such as Integrated Services Digital Network ("ISDN"), the cost to mechanize these types of requests exceeds any anticipated economic benefit. As such, requests for these types of more complex wholesale services will continue to require manual handling into the foreseeable future. Manual handling of other service provisioning and installation activities will also continue, even in a mechanized environment. For example, while some support functions (such as dispatch) are anticipated to be mechanized, the physical field installation work activities performed by BA-NJ personnel will not be appreciably affected (if at all) by the introduction of the new wholesale OSS interfaces. In contrast, one forward looking assumption in the NRC cost studies is an 80% improvement in the performance of the Regional CLEC Coordination Center ("RCCC") for certain types of new UNEs. In addition, a 50% improvement for other RCCC activities is based on the anticipated development of a single GUI interface that reduces the time currently required to access and update older systems. As these examples indicate, reasonable, forward-looking assumptions for an efficient carrier were built into the NRCM.

21. Activities to be included in the studies were determined based on a work flow analysis that organized all of the work activities, by work group, necessary to fulfill a CLEC's service request. Exhibit C contains a comprehensive list of the work groups and a brief

description of the group's responsibilities. The specific activities of the work groups that provide the framework for the NRCM and the basis for the bulk of the non-recurring cost studies are shown in Exhibit D.

22. There are major work activities, or groupings of activities, that normally are associated with more than one UNE. These "generic" activities are the source of many of the non-recurring costs that will be incurred by BA-NJ and were identified through a workflow analysis of activities that will have to be performed to provide several UNEs. The generic UNE NRCs are identified in Exhibit B. For those costs processed within the NRCM, the appropriate set of activities was mapped to each of the generic UNE NRCs. The generic UNE NRCs were then either mapped on a one-for-one basis or combined with other generic UNE-NRCs to derive the proposed UNE NRC rate elements shown in Exhibit H.

23. The process workflow is simple: one first identifies the functional work centers that are expected to perform each non-recurring activity and then identifies those activities to be performed within each work center. For example, the process workflow may begin at the TISOC, which will continue to handle the CLEC's initial request for service, and end with a field organization, such as central office frame or installation. A comprehensive list of the activities to be performed within each functional organization was developed, based on data obtained from appropriate work center personnel. Work center personnel also provided estimates of the time that will be required for each of the activities identified.

24. Once the work groups and the related activities were identified, the Company developed a study approach that would produce accurate results. For most work activities, the study approach most appropriate was the use of surveys to solicit time estimates from knowledgeable people who actually do or supervise the functions under study. For other

work activities, study approaches included the use of existing time and motion studies performed for the Company by outside consultants (Andersen Consulting for the TISOC) and the use of a productivity report (in the Mechanized Loop Assignment Center ("MLAC").

25. Andersen Consulting was engaged by Bell Atlantic to conduct a time and motion study for the TISOC. That analysis was relied upon to validate the scalability of TISOC processes and to ensure appropriate TISOC staffing, among other purposes. While most NRC cost studies were based on surveys of time estimates for work activities, the Andersen Consulting analysis was based on actual observations of order processing work in New York and Boston. The Anderson Consulting analysis included observations of the processing of over 800 service orders between March and August 1999. The results were then validated by more than 25 service representatives and their supervisors in the TISOCs. Since the TISOCs are regional operations, study observations in New York and Boston are valid for the TISOCs located in Newark, NJ, Pittsburgh, PA and Silver Spring, Md. Since Bell Atlantic expects OSS electronic interfaces will reduce the TISOC activities work times, the Andersen Consulting results were adjusted downward in the NRC cost studies to reflect forward-looking expectations.

26. The MLAC productivity report tracks the total number of requests for manual assignment (RMAs) and the hours worked on them, on a monthly basis. The number of RMAs handled over a specific period of time in the MLAC can be calculated from this report. The time to process an RMA is the average time it takes an assignment clerk to assign cables and pairs per line for those orders that cannot flow through the mechanized Loop Facility Assignment and Control System ("LFACS"). MLAC activities required in the future are not expected to change. However, in recognition of expected improvements in flow-through of orders, dramatic downward adjustments of the average MLAC work times were incorporated in

the NRCM. An optimistic estimate of 96% order flow through was incorporated, so that only 4% of the identified MLAC costs for manual cable and pair assignments are incorporated in the NRCM results. This reflects a level of flow-through far better than is achievable today.

27. Bell Atlantic Service Costs personnel used the process workflows discussed above to develop surveys to determine the time required to complete various work activities. The surveys were reviewed by the Operations Assurance and Administration ("OA&A") and Product Management groups to ensure that the most up-to-date work process activities were included. The surveys were then administered to the field organizations responsible for the ordering and provisioning of wholesale service.

28. Surveys were distributed throughout the Bell Atlantic region to those associate and management employees most familiar with ordering and provisioning services for Bell Atlantic's CLEC customers. The head of each identified work group was informed in writing of the purpose and importance of the survey and the need for accuracy. A copy of the letter dated June 9, 1999 is attached as Exhibit J.

29. In addition to management oversight of the process, instruction forms were given to each survey participant. These forms provided the necessary instructions and reinforced the importance of the undertaking and the need for independent and accurate reporting. A copy of those instructions is attached as Exhibit K.

30. The Service Costs staff monitored survey results and made repeated efforts to obtain completed surveys from respondents in all work groups. Substantial efforts were made to assure that the importance of the process was understood and that the number of surveys returned would be sufficient.

31. All average work time estimates were subjected to a review by a panel of 18 subject matter experts. The object of the review was to assure that average work time estimates generally corresponded to reality and were then appropriately adjusted to reflect a forward-looking work time. As with the survey participants, the Panel members were also provided detailed instructions on the importance, purpose and intent of the analysis. Those instructions can be found in Exhibit L. Forward-looking adjustments were made for all activities required to provision a UNE. All of these adjustments can be found in the NRCM. An example can be found in Exhibit G, Column E, which displays the Connect Forward-Looking Adjustments for a Two Wire New Initial UNE. The experts who developed these adjustments were experienced managers from work groups who are and will continue to be involved in the provision of wholesale services.

32. I mentioned previously that NRCs also include the cost of disconnects. Disconnect, or termination costs were developed in the same manner as were the costs of service provisioning, described above. Termination costs were identified separately and then discounted based on a 2.5 year forecasted service life, to recognize that BA-NJ will not incur this expense until some future date (estimated to be the average end user service life). The discount is intended to reflect the time value of money for this future expenditure in the present NRC rate. The results were then added to the connect costs.

33. BA-NJ's standard NRCM converts work times to costs in accordance with the following steps:

1. Identify and map non-recurring work activities required to provision UNEs;

2. Determine the average amount of work time required to perform activities today;

3. Apply a suitable occurrence factor (the % frequency with which an activity is performed for a given UNE) to the estimate of average work time to produce time (in minutes);

4. Apply a forward-looking adjustment factor (the % frequency with which an activity is expected to be done, if at all, for a given UNE in the forward-looking period) to the time identified in Step 3 to produce forward-looking work time (in minutes);

5. Multiply forward-looking work time (in minutes), in Step 4, by directly assigned forward-looking labor rate per minute; this yields the forward-looking direct cost;

6. Multiply direct cost, in Step 5, by the common overhead factor specifically developed for the non-recurring cost studies whose underlying expenses are based on the direct labor rates to apportion common overhead costs to the direct costs; and

7. Assign to the direct plus common costs an allocation of Gross Revenue loading by multiplying the costs identified in Step 6 by Gross Revenue Loading ("GRL").

34. The resulting costs, for both standard and expedited intervals, are summarized in Exhibit H.

35. As mentioned previously, the NRCM was used to develop all non-recurring costs, with the exception of the costs of Dark Fiber. The non-recurring costs for Dark Fiber were calculated outside of the NRCM in a separate study. The costs are attributable to the following items: service order, Dark Fiber Interoffice Facilities ("IOF"), Dark Fiber loop, and record review. In addition to the Service Order Charge, the CLEC will be billed a non-recurring Records Review Charge on all new installations to recover the cost of the initial records review to determine if spare fiber is available. This charge will be applied at the time the Dark Fiber Access Service Request ("ASR") is received and the service order is issued. The charge will be

applied per Dark Fiber Network Element based upon the quantity field in the ASR. Prior to submitting an ASR, the CLEC and Bell Atlantic must ascertain if spare fiber is available. To do this, the CLEC must submit a completed Dark Fiber Inquiry Form to a BA-NJ Service Delivery Engineer ("SDE"), providing information on the two locations between which the Unbundled Dark Fiber Network Element is desired and the quantity of pairs requested. Each request must specify two locations only. Additional locations will require a separate Dark Fiber Inquiry Form to be submitted. Time and materials costs are also proposed for field survey work, retrofitting connectors, cleaning connectors and creating a fiber layout map. These are optional activities that BA-NJ will perform at the CLEC's request, provided that, in the case of retrofitting and/or cleaning connectors, it is technically feasible to do so without risking service interruption to other customers.

36. The Service Date Change Charge recovers the costs associated with the TISOC negotiating and processing a request from the CLEC to change the Dark Fiber service due date. The non-recurring cost for the Service Date Change is based on the Query Back cost study. Results of the Dark Fiber study can be found in Exhibit I.

Conclusion

37. The cost results presented in my affidavit reflect the forward-looking non-recurring costs that can be expected to be incurred by an efficient carrier providing telecommunications services in New Jersey. As such they comply with the FCC's TELRIC requirements. Accordingly, the Board should adopt BA-NJ's non-recurring cost study and should establish non-recurring UNE rates based on BA-NJ's analysis.

REPLY DECLARATION OF PATRICK A. GARZILLO AND MARSHA S. PROSINI

ATTACHMENT 2

REDACTED – FOR PUBLIC INSPECTION

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REPLY DECLARATION OF PATRICK A. GARZILLO AND MARSHA S. PROSINI

ATTACHMENT 3

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DOCKET NO. 01-347 Attachment A

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